

**Improved Method and System for Scanning Apertureless Fluorescence  
Microscope**

**ABSTRACT OF THE DISCLOSURE**

Methods and systems for operating an apertureless microscope for observing one or more features to a molecular sensitivity on objects are described. More particularly, the method includes moving a tip of a probe coupled to a cantilever in a vicinity of a feature of a sample, which emits one or more photons at a detected rate relative to a background rate of the sample based upon the presence of the tip of the probe in the vicinity of the feature. The method modifies the detected rate of the feature of the sample, whereupon the modifying of the detected rate causes the feature of the sample to enhance relative to background rate of the feature.

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